

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

733
3A74
THE ASSOCIATES
OF THE NATIONAL
LIBRARY INC.
AGRICULTURAL

Ind

Associates NAL **TODAY**

The Associates of the National Agricultural Library, Inc.
Newsletter No. 14
Beltsville, Md. 20705

July 1975

Bicentennial Issue



EDITORIAL COMMITTEE

Editor:.....*Angelina J. Carabelli*
Associate Editor:.....*Ruth Pyne*
Contributing Editors:..*Robyn Frank*
Judy Ho
Alan Fusonie
Sharon Crutchfield
Production:..... *Leila Moran*

OFFICERS

President:

Frank Frazier

Vice-President:

Charles E. Kellogg

Treasurer:

Mary Ruth Brown

Recording Secretary:

Helene Gingras

Executive Secretary:

Leila Moran

Immediate Past President:

Angelina J. Carabelli

Personal Membership Representative:

Patrick W. Brennen

Ex Officio Members of the Board of Directors:

Kevin J. Keaney 1972-1975

David Lee 1973-1976

Shirley Gaventa 1974-1977

COMMITTEE CHAIRMEN

Membership:

Mildred Benton

Nominating:

Wayne D. Rasmussen

Bicentennial:

Alan Fusonie

Professional Activities Fund:

C. S. Shaffner

View from the Tower 1

Editorial Reflections 2

Historic Materials: Record 3
of the Past and Edge of
the Present

George Washington Writes 8
the First Crop Report

Ninety Percent of Early 16
Americans Were Farmers

The Publications Exchange 24
Program of NAL

NAL Happenings 25

Book News 26

Calendar 28

Associates NAL, TODAY is published in January, April, July, and October and is mailed free to members of The Associates NAL, Inc. In addition to underwriting the cost of this quarterly journal, The Associates publish occasional monographs, sponsor symposiums, and initiate projects designed to supplement programs of the National Agricultural Library. Readers are cordially invited to join The Associates NAL, Inc. to receive these publications and participate in these activities. Categories of membership are: Personal, \$10; Business, \$500; Institutional, \$100; NAL staff members (non-voting) \$5. Please make your check payable to The Associates NAL, Inc. and mail along with completed form below to The Associates NAL, Inc., 10301 Baltimore Blvd., Beltsville, MD 20705.

NAME: _____

ADDRESS: _____

CATEGORY OF MEMBERSHIP: Personal _____
Business _____
Institutional _____
NAL Staff Member _____

VIEW FROM THE TOWER

The Bicentennial presents an unique opportunity to reassess and re-examine both the progress and the role of American agriculture in the world. There are numerous basic questions which one might pose. To mention but a few: how did it develop? how far have we come? where are we now? how should we approach the future? Unless we, as individuals, are willing to address ourselves to these questions, then the Bicentennial can have no real significance or meaning for the agricultural community at the local, state, national, or international levels. In September, the Bicentennial Symposium, "Agricultural Literature: Proud Heritage - Future Promise" will focus in greater depth and detail upon these and other pertinent questions that are reflected in the literature. I urge you, if you have not already done so, to mail in your reservation for this worthwhile event. Closing date for acceptance of reservations is September 5.

The Board of Directors moved the Annual Meeting from May to September 26 to coincide with the Symposium, so that members from a distance attending the Symposium could participate in the Annual Meeting of the Associates.

The luncheon on September 26 is billed as an Awards luncheon, at which time the Associates will make the third annual awards presentation. At the business meeting following the luncheon the slate of new officers for 1975/76 will be presented.

The slate as presented to the Board on May 14, 1975 is as follows:

Charles E. Kellogg....President
Robert Lederer.....Vice-President
C. S. Shaffner..... Treasurer
Donna Fusonie..... Recording Secretary

The names of write-in candidates must be submitted to the Executive Secretary by September 1, 1975.

Frank Frazier
President



After two hundred years of growth and achievement as a nation, the United States is believed by some to be heading towards a state of chaos somewhat like the coming of a second "Dark Age" resulting, so they believe in technological breakdowns of essential services, massive inefficiency, and a possibility of domestic apocalypse and/or extinction through pollution. Other individuals familiar with our historic identity and direction, however, hold a more realistic view, seeing America as she is -- the only former European Colony to become not only one of the most powerful but also one of the most agriculturally productive nations in the world. This unprecedented progress in agriculture on the part of the United States is reflected in its rich body of agricultural literature. From one of the first books on American agriculture, Essays Upon Field Husbandry by Jared Eliot published in 1760, to the immense and diverse literature of today, it is clear that American agriculture continues to serve as a major cutting force of the future.

Alan Fusonie
Contributing Editor

With this issue of Associates NAL Today, we are inaugurating a policy of having each of our contributing editors produce an issue revolving around a special topic or theme. Three of the major articles in this issue focus attention on the rich heritage of American agricultural literature and should be seen as a beginning or take-off point for further retrospective analysis, interpretation, and speculation.

245
HISTORIC MATERIALS: RECORD OF THE PAST
AND EDGE OF THE PRESENT

by

Alan Fusonie, NAL

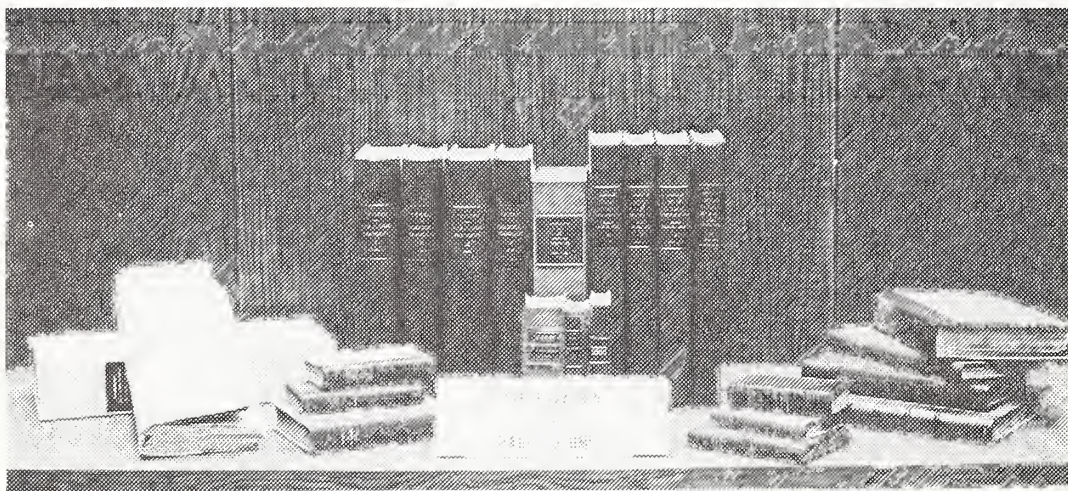


Photograph taken about 1867, U.S.D.A. Persons appearing in photograph are: Maj. H. A. Meyers, Supt., Seed Dept.; Wm. Saunders, Supt. of Gardens; Col. E. M. Whitaker, Chief of Correspondence; Maj. G. B. Newton, Chief Clerk of Dept.; Isaac Newton, Commissioner of Agriculture; W. E. Gardiner, Private Secretary; J. R. Dodge, Statistician; Thomas Antisell, M.D., Chemist; Isaac Newton, Jr., Supt. Experimental Farm; Townend Glover, Entomologist.

When Isaac Newton, the first Commissioner of Agriculture, outlined the program for the new Department in 1862, he placed near the top of his list the establishment of an agricultural library. It was his belief that, "the most valuable works would gradually accumulate by exchange, gift, and purchase forming a rich mine of knowledge." Since that time, the National Agricultural Library (NAL) has assembled a collection of over 1,500,000 volumes inclusive of historic and/or rare books, manuscripts, and oral history transcripts. Often the older materials are essential to research in various subject areas which pertain to agriculture and its related fields. These materials are

also an important record of the past. Although some historic and older subject collections are to be found in the general stack area such as the Horticultural Trade Catalogues, the Herd Book Collection, the Government Agricultural Publications and the Farm Journals, efforts are continually made to identify the major scarce and difficult to replace materials and to designate them as rare so that they may receive special care and handling, storage, and preservation.

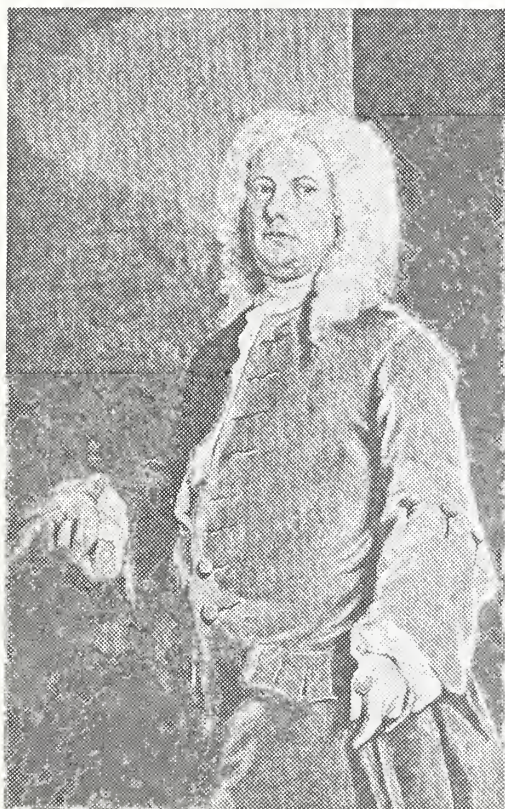
The Library realizes the need to preserve unique information in order to insure its continued dissemination for generations yet unborn. In particular, these materials are often in need of the highest quality restoration, repair and/or custom binding, as determined by the standards set in the field of rare book conservation. As a result, selected rare books are restored as nearly as possible to their original state. In this regard, for the past three years, Carolyn Horton & Associates has done excellent work for NAL. Carolyn Horton was one of three book binding conservators chosen by the Committee to Rescue Italian Art (CRIA) to participate in the salvaging of manuscripts and books from the disastrous flood that occurred in Italy on November 4, 1966. An account of her activities can be found in her article "Saving the Libraries of Florence" in the June 1967 issue of Wilson Library Bulletin. She has also published an authoritative manual on conservation of library materials for the ALA Library Technology program entitled Cleaning and Preserving Bindings and Related Materials (Pamphlet 1 of the series "Conservation of Library Materials," LTP Publications, No.12; Chicago, Library Technology Program, American Library Association: 1967)



The printed materials range in date from 1502 imprints to the modern autographed and/or first edition copies. The major portion of the unique historical materials are pre-1870. Geographically, while the collection is international in scope, it also has a strong concentration on continental Western Europe and especially useful materials on 17th and 18th century British agriculture. This literature, to varying degrees, influenced early efforts in the development of agriculture in America. By 1800, the impressive body of imprint materials included Thomas Tusser's A Hundredth Good Pointers of Husbandrie (1557) and Five Hundred Pointers of Husbandrie (1573) as well

as Gervase Markham's book, the Country Contentment, or Husbandman's Recreation first published in 1731 which, in addition to basic agricultural information, provided useful insights into the use of the long-bow or cross-bow and the ancient sport of cock-fighting, the latter of which was reportedly enjoyed in America by such notables as Jefferson, Hamilton, and Washington.

There was also the epoch-making, yet controversial, work of Jethro Tull (agriculturist, 1674-1741) an 18th century English gentleman farmer entitled, The New Horse-Hoeing Husbandry first published in 1731. The author provided descriptive accounts of such aspects of husbandry as roots, leaves, the pasturage and the food of plants, manure, hoeing, weeds, crops, crop diseases, the plow, the drill (i.e., the seed, wheat, and turnip drills), and a discussion of the differences between the old and the new husbandry. Tull's chief aim was to secure maximum utilization of the soil. Most historians pinpoint Tull as the inventor of the grain drill machine for sowing seeds evenly and in straight lines along furrows with the horse-drawn hoe working between the resulting rows.



JETHRO TULL
1674-1741
English agriculturist

During the same period of time, a number of visitors to the American shores who traveled as far south as Georgia and the Carolinas were struck by its natural beauty; for instance, Mark Catesby (an English naturalist and traveler, 1679(?)-1749), beginning in 1722, spent about three years

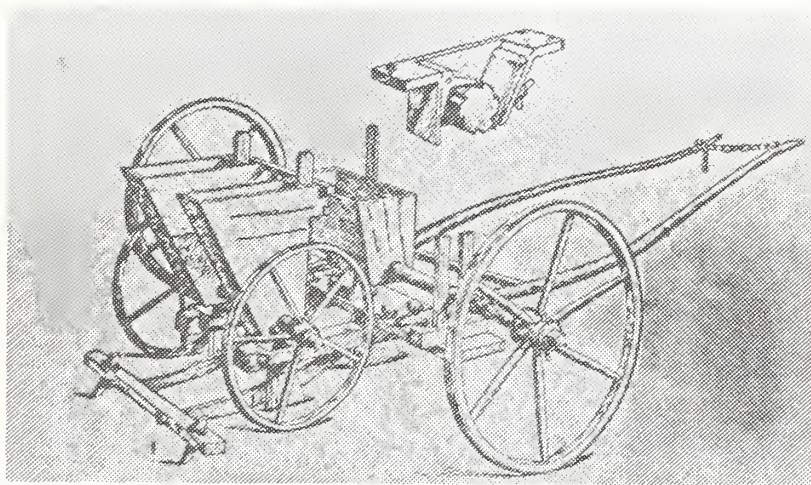
studying and collecting fauna and flora. Having mastered the art of etching, he wrote and illustrated with 200 colored plates his Natural History of the Carolina, Florida, and the Bahama Islands (London: the Author, 1731-43).

Time passed and by the end of the Revolution there was a large volume of descriptive material relating to the new American nation. Within the holdings of the National Agricultural Library there is a rich body of American imprint literature of the Revolutionary Period, 1763-1800, including works by the following agriculturally related pioneers: John Adlam (pioneer in viticulture, 1759-1836); John Bartram (first native American botanist); William Bartram (traveler and naturalist, 1739-1823); John Binnes (Virginia farmer, 1761-1813); Metcalf Bowler (agriculturist, 1726-1789); William Coxe (pomologist, 1762-1831); William Darlington (botanist, 1782-1863); Samuel Deane (clergyman and agriculturist, 1733-1814); Oliver Evans (pioneer in the design of mills, 1755-1819); Richard Peters (lawyer, agriculturist and revolutionary patriot, 1744-1828); Timothy Pickering (soldier, administrator, politician and agriculturist, 1745-1829); Timothy Pitkin (statesman, historian, economist, 1766-1847); William Prince (nurseryman, 1766-1842); Job Roberts (pioneer agriculturist, 1756-1851); Benjamin Rush (physician, patriot, humanitarian and agriculturist, 1745-1813); John Taylor (political writer and agriculturist, 1753-1824); Thomas Walters (early American botanist, 1740-1789); Elkanah Watson (merchant, canal promoter and agriculturist, 1758-1842).

In addition to its historic imprint materials, the Library welcomes the opportunity to receive, preserve, and make available manuscript material of historic value including diaries, account books, letters, notebooks, memoirs, and reminiscences. These holdings include, among other things, such single items as Vini, an eighteenth century Florentine wine merchant's account book; the personal papers of Charles E. North (1869-1961), physician, public health officer, and agricultural scientist; the papers of Julian N. Friant (1888-1939), a Special Assistant to Secretary Henry Wallace who corresponded with such notables as James Farley, Rex Tugwell, and Franklin D. Roosevelt; and the James M. Gwin Poultry Collection.

Guides to the historic materials include: Historic Books....., List No. 86; Linneana . . ., List No. 89; Historic Books . . . Horticulture and Forestry, List no. 90; and the recently issued Heritage of American Agriculture: A Bibliography of Pre-1860 Imprints, List no. 98. The Library, as part of its growing responsibility for providing an accurate and convenient approach to its manuscript holdings, is planning a variety of "registers" which will enhance custodial control, as well as improve access, for both the reference staff and the researcher.

In closing, the historic resources of the National Agricultural Library are a rich deposit always waiting to be explored for the past in agricultural literature is prologue and, often, a growing edge of the present. It has often been said that each generation of researchers interpret and/or encounter the primary documents of the past in terms of its own milieu. On September 24-26, 1975, a group of serious and thoughtful people will attend a bicentennial symposium on "Agricultural Literature: Proud Heritage - - Future Promise", to be held at the National Agricultural Library. It will, hopefully, develop into a timely effort to search for and to reassess the influence, the sense of order and continuity of agricultural literature in the light of the historic realities of today and the speculations about tomorrow.



TULL'S GRAIN-DRILL

GEORGE WASHINGTON WRITES THE FIRST CROP REPORT

*By John C. Ryan**
Information Specialist, ASCS
USDA, Washington, D.C.

In his last State-of-the-Union message, December 7, 1796, George Washington urged the Congress to create a board of agriculture. He spelled out the board's purpose, which closely resembles that of today's United States Department of Agriculture (USDA). Washington wanted the board "charged with collecting and diffusing information, and...to encourage and assist a spirit of discovery and improvement".

Washington's 1796 proposal was enacted in 1862, when Congress authorized USDA. USDA's charter reflects the first President's aim--to conduct research and "diffuse" information.

Washington's original recommendation was rooted in two things: His own life devoted to farming and a series of letters he exchanged with two Englishmen, Arthur Young and Sir John Sinclair. The first letter was written in 1786, when Washington asked Young, the most famous scientific farmer of the day and editor of the Annals of Agriculture, to help obtain some farm tools and seeds.

Gradually, the subjects of their letters widened, and by 1791 Washington, then His Excellency, George Washington, President of the United States, had become somewhat irked by the European notion that U.S. farmland was poor. Some Europeans thought the Americas good for growing cotton, tobacco, trees, perhaps rice, but not much else.

Early in 1791, Young wrote Washington and asked him what farms in America did produce, what crops here were worth, and many other questions. Washington did not know the answers, but he found them by personally conducting a mail survey and compiling the results. It was America's first crop report.

THE SURVEY

Mail surveys still serve USDA in determining acreages and yields for crops. An extract from Washington's form letter--he called it a circular letter--shows that he asked today's questions in yesterday's words:

3. *The average product...in wheat, rye, oats, barley, buckwheat, beans, pease, potatoes, turnips, grasses, hemp, flax, &c. in the common mode of husbandry now practiced.*
4. *The average prices of these articles, when sold at the farm, or carried to the nearest market.*
5. *The average prices of good working horses, working oxen, milch cows, sheep, hogs, poultry, &c.*

He asked eight long questions, and he must have realized they required even longer answers. So he ended by saying: "The tendency of this inquiry, will be my apology of the trouble it might give you. I am, dear, Sir, with regard, Your most humble servant, G. Washington".

SHADED AREAS SHOW THE LOCATION
OF GEORGE WASHINGTON'S 1791 CROP REPORT



In 1791, George Washington compiled information on U.S. agriculture showing crop yields and farm prices. He mailed this information to Arthur Young in three letters between September 24 and November 18. Today, the area of the report cuts through four states: Pennsylvania, Maryland, Virginia, and West Virginia. The detached area in central Virginia is Albemarle County. Statistics from this county come from an enclosure to the November 18, 1791 letter. The enclosure, dated August 3, 1791, was probably written by Thomas Jefferson, who lived in that county.

SURVEY RESULTS

From September 24, to November 18, 1791, Washington mailed Young three letters that gave agricultural statistics on an area roughly 250 miles from north to south and 100 miles from east to west. Today, this strip cuts through four states-- Pennsylvania, Maryland, West Virginia, Virginia-- and the District of Columbia.

Washington did explain many Americanisms to Young, and these explanations give a good background to the 20th century reader. For example, he gives all prices in English pounds, but he provides a conversion ratio. "The dollar at 7s. 6d," (seven shillings six pence) he tells Young for Pennsylvania.

Thus, in Pennsylvania in 1791, \$1 equaled 90 pence; a pound (L) equaled \$2.66. When Washington's figures are converted from pounds to dollars at the 1791 conversions the dollar figures often end up in figures like \$3.33, \$6.66, \$3.75, or in even dollars. It seems to indicate that Washington rounded his figures to the nearest third, quarter, or tenth of a dollar.

Washington also reveals much of himself. These were personal letters, and his feelings and opinions punctuate every line. He told Young almost as much about Washington the man, the farmer, the visionary, as he did about U.S. agriculture in 1791.

LAND PRICES

Washington found the most expensive farmland lay in York County, Pa., where an acre of rich soil of the limestone kind brought \$16.80 an acre. The cheapest land cost \$3.10 an acre and was in Frederick County, Md. In his three letters, Washington tied yields to land prices. He also notes that U.S. land was very cheap, even by 1791 standards.

YIELDS

Wheat. Virgin cleared land around Charlottesville, Va., yielded 30 bushels of wheat when fresh, while exhausted tobacco land in Fairfax County, Va., got only 6 bushels per acre. Washington also says, "...yet there are a few instances at York and Lancaster (Pa.) where between 40 and 50 bushels of wheat have been raised to the acre."

Corn. Washington constantly refers to "Indian corn." He had to specify, because the word "corn" meant wheat to Englishmen.

Farmers in Berkley County, Va., presently located in West Virginia, got 20 to 40 bushels of corn from bottom land along the Shenandoah River. Farmers in Franklin County, Pa. and those who had \$16.80 land in York County got 25 bushels of corn per acre; Fairfax County, Va. farmers averaged from 10 to 15 bushels per acre.

Oats. Shenandoah Valley bottom land yielded 40 to 50 bushels of oats. The good lands in Pennsylvania yielded 30.

Work Animals. Horses and oxen were comparatively expensive. In Virginia, a good horse cost between \$66 and \$83.25. In York County, the price stood at L20, an awesome figure in its day, equal to \$53.

A pair of working oxen brought between \$27 and \$50 in Virginia and over \$45 in York County. Milch cows were most expensive in Frederick County, Md.--between \$15 and \$18--and least expensive in Franklin County, Pa., \$10.25.

PENNSYLVANIA

Washington wrote to Young on September 24, 1791 about York and Franklin Counties, which lie along the Maryland line. Today this area includes Adams County, Pa.

Land in York County cost between \$4.11 and \$16.80 in 1791. The costliest land occupied a strip 39 miles by 3 to 4 miles running from Littleton, near the Maryland line, through Hanover and York to Wrightsville on the Susquehanna. The cheapest land lay to the southwest of the \$16.80 land, between the Susquehanna and the Maryland line. Washington calls this area the "barrens of York" and says it had poor soil of the gravelly or slate kind.

Franklin County land cost \$10.71 an acre. Washington praised its superior soil and noted that the county, half cleared, abounded in locust, walnut, hickory, and oak trees of the largest size.

Franklin County farmers got the same yields as farmers on the most expensive York County land. Per acre yields in bushels for both averaged: wheat, 15; rye, 20; barley, 25; oats, 30; corn, 25; potatoes, 75, and turnips, 150.

In the barrens of York, yields averaged from a quarter to a third less.

In 1973 (latest data available), Adams, Franklin, and York County farmers all got 27 bushels of wheat per acre. (Adams County split off from York in 1800.) York County acres yielded 47 bushels of oats; Adams, 50; Franklin, 51. However, York County led in barley, 45 bushels per acre, compared to Adams 38, and Franklin 40. Franklin County farmers got 76 bushels of corn per acre; York, 69; Adams, 66. For potatoes, yields averaged per acre: Adams, 366; York, 357; Franklin, 330.

In 1971; farmers in that area of Pennsylvania grew wheat as their main cash crop. They hauled wheat and flour to Baltimore, Md., which lay 56 miles south of Yorke Town, modern York, Pa.

In York County, farmers realized better prices for their crops than their Franklin County neighbors. The York County price for wheat was 80 cents per bushel; Franklin County, 66 cents. Hay brought \$8 per ton in York and \$6.66 in Franklin. Rye brought 46 cents and barley 53 cents a bushel in both counties.

Franklin County farmers, on the other hand, enjoyed cheaper prices for inputs. They paid \$47 for a work horse, compared to \$53 in York. A team of oxen cost over \$45 in York, but \$40 in Franklin. Milch cows varied less in price--\$11 in York, \$10.25 in Franklin. A hog went for \$4 in both counties.

Food prices also ran higher in York County: pork cost about 4 cents a pound there, compared to 3 1/2 cents in Franklin. Beef ran 3 1/2 cents per pound in York and somewhat over 2 cents in Franklin. Butter cost 9 cents a pound both places.

MARYLAND

In the next letter, dated November 10, 1791, Washington informed Young about three Maryland counties, Washington, Frederick, and Montgomery, but the Maryland letter does not provide the comprehensive, comparative statistics worked up for Pennsylvania.

Both Washington and Frederick Counties still stretch from the Pennsylvania line to the Potomac River. Montgomery lies southeast of Frederick County and borders the Potomac and Washington, D.C. -- which Washington called "territory of Columbia" in the letter.

In Frederick County, land ran between \$3.10 and \$4.75 an acre; however, Washington noted that some land cost as much as \$15 an acre. He noted that a \$15 acre gave 20 bushels of wheat or corn, and even better yields for rye, and that "...strong land properly cultivated will yield 30 to 40 bushels of barley per acre."

Montgomery farmers reported getting from 15 to 20 bushels of corn per acre and from 9 to 12 bushels of wheat. Washington noted: "I judge that from half to two-thirds of Montgomery County is cleared--a good deal of it is much impoverished, or as we call it, worn out..."

Washington then told how the farmers treated their land. First they planted alternating rows of corn and tobacco for 4 years, then they put in just corn, then just wheat or rye. "The crops accordingly lessen," Washington says, "till the land becomes so exhausted that its produce scarcely pays for the ploughing."

Washington loathed this kind of exhaustive farming; however, he reserved most of his acid comments for tobacco growing and southern agriculture in Virginia, his own state.

Land in that area has recovered. In 1973, improved land uses and better seeds gave Montgomery County farmers 36.5 bushels of wheat and 79.0 of corn per acre. Frederick County farmers got 30.5 of wheat and 77.0 of corn.

In 1791, Montgomery County farmers hauled their wheat to Baltimore or George Towne, now Georgetown, a neighborhood in northwest Washington, D.C. They generally got about 96 cents a bushel for it. Frederick County farmers realized the same price, but those in Washington County generally got 6 1/2 to 9 cents less per bushel because of the distance to a port.

Few data are recorded for Washington County, and just a few farm costs for Frederick County, where working horses cost from \$48 to \$67 apiece and working oxen, between \$15 and \$18 a pair.

DISTRICT OF COLUMBIA

Congress had only recently voted to move the capital from Philadelphia to the District. Northern congressmen said it was too far west--the District is 300 miles by ship from the Atlantic--and resented being sent to "legislate in a wilderness," but Washington loved the place and had great hopes for it.

Washington envisioned a nation of farmers, who would move west to new lands via the Potomac and Shenandoah Rivers. The District had been located at the most westward point of tidal waters on the Potomac. Washington wrote Young about it on December 12, 1793: "The Federal City...will I have no doubt, from the advantages given to it by Nature, and its proximity to a rich interior country, and the western lands, become the emporium of the United States.

VIRGINIA

"I never enteratined very high opinions of our system of farming," Washington wrote about his inquiries into Fairfax County, Va. agriculture, "but what I had is certainly lower than it was." He maintained that farms were too large, slavery was inefficient, and tobacco was exhausting the land.

In his survey, he found that wheat yields on exhausted tobacco acres in Fairfax County averaged six bushels. On fallowed tobacco land, farmers got eight bushels per acre; however, old tobacco lands that were well manured yielded 20 to 30 bushels.

Fairfax County farmers averaged 10 to 15 bushels of corn per acre and 15 bushels of oats or rye. Washington showed no tobacco yields in his letter, probably because Young had not asked about them.

Land 10 miles from the Potomac in Fairfax sold for from \$3.33 to \$6.66 per acre; however, land similarly situated on the other side of the river in Maryland brought much more. Prince Georges County, Md., land fetched from \$13.32 to \$16.65 per acre.

Washington noted that Virginia counties neighboring Fairfax--Prince William and Fauquier--had better land than Fairfax, but crop yields were about the same, because "their system of farming is, certainly worse than in Fairfax." He noted that farmers in the two counties were even more addicted to tobacco growing than in Fairfax.

In 1791, land prices in Prince William and Fauquier Counties averaged between \$3.33 and \$5.00 per acre.

Today, Fairfax, Prince William and Fauquier Counties still get about the same crop yields. In 1973, Fairfax and Fauquier County farmers both got 31 bushels of wheat per acre, while Prince William farmers got 35. Fairfax and Prince William acres both yielded 47 bushels of barley, while Fauquier yielded 49. Corn showed a slightly larger spread; Fairfax, 76; Prince William 69; and Fauquier, 64 bushels per acre.

Upriver from Fairfax County and Washington, D.C., lies Loudoun County, which Washington thought had the best farmers in Virginia. He noted it was populated by Quakers and Germans, who had moved south from Pennsylvania.

The Pennsylvanians had found many exhausted tobacco acres that yielded only 8 to 10 bushels of wheat per acre. Fresh lands yielded from 10 to 15. Fresh acres also would yield 15 bushels of corn, 20 of rye, 25 of oats, or 30 of barley.

In 1973, Loudoun County acres produced 81 bushels of corn, 38 of wheat, and 46 of barley.

WESTERN VIRGINIA

Even farther west up the Potomac lay Berkeley County, Va., now a part of West Virginia. Washington thought Berkeley County contained the best farmland. Land there cost between \$5.00 and \$13.33 per acre. The most expensive was rich Shenandoah bottom land, where farmers did not plant wheat, because it developed rust.

However, on a \$10 acre farmers got 15 to 20 bushels of wheat; on \$6.66 land they got from 10 to 12; and \$5 land yielded from 8 to 10 bushels. On the expensive bottom land farmers planted oats and corn and got yields of 40 to 50 bushels per acre for oats and from 20 to 40 for corn.

Today, the Shenandoah River flows through Jefferson County, W.V., and meets the Potomac at Harpers Ferry. In 1973, Jefferson County farmers got 36 bushels of wheat and 85.5 bushels of corn per acre.

Washington also mailed Young some information on the Charlottesville area as part of the November 18, 1791 letter. The data is in an enclosure dated August 3, 1791.

Thomas Jefferson seems to have written the enclosure. Jefferson writes and signs most enclosures and additions to subsequent letters. (Alexander Hamilton wrote a few, too.) The author of the August 3 enclosure also gives some striking details about land on the Rivanna River. Jefferson's home, Monticello, bordered that river.

Jefferson agreed with Washington about the quality of most of Virginia's farmers. He notes. "The husbandry is, in general very slovenly..."

In Albermarle County, around Charlottesville, land cost from \$3.75 to about \$4.60 per acre in 1791. The best land gave 30 bushels of wheat per acre when fresh, but after farmers exhausted it with corn and wheat, yields generally ran from 8 to 10 bushels per acre. Middling land produced 12 to 15 bushels per acre when fresh, then yields fell to 8 bushels per acre. In 1973, Albermarle County yielded 34 bushels of wheat per acre.

In the body of the November 18 letter, Washington gave Young average prices in Virginia. A good horse ran between \$66 and \$83.25; a second rate horse, between \$40 and \$66. Oxen cost between \$27 and \$50 a pair. Good milch cows brought over \$13, while second raters brought between \$8.33 and \$10.

Wheat sold for 70 cents a bushel; corn, 33 cents; and peas for from 50 to 66 cents per bushel.

At market, veal cost from less than 1 cent to about 2 cents per pound; mutton, around 2 1/2 cents a pound; and pork, from \$3.33 to \$5 for 100 pounds.

WRITING CONTINUED

Washington and Young continued to correspond until Washington died in 1799. Jefferson's comments and notes--which Washington seems to have always enclosed--grew longer and more detailed. The letters turned increasingly from statistics to scientific farming and how to prevent land exhaustion.

Gradually, the idea for a board of agriculture formed in the letters. On July 20, 1794 Washington wrote Sir John Sinclair, a friend of Young's that he knew of no more important pursuit in any country than improving agriculture. However, he thought it would be some time before "an agricultural society with Congressional aids" would be founded in the United States.

In 1796, Washington had changed his mind somewhat, because he recommended that the Congress establish a board of agriculture. He wrote Sinclair from Philadelphia on March 6, 1797:

I am sorry to add, that nothing final in Congress, has been decided respecting the institution of a National Board of Agriculture, recommended by me, at the opening of the Session. But this did not, I believe, proceed from any disinclination to the measure, but from their limitted (sic) sitting, and a pressure of what they conceived, more important business. I think it highly probable that next Session will bring this matter to maturity.

I have the honor to be sir, & c.

G. Washington

* * * * *

* Reprinted with author's permission. ASCS is the abbreviation for Agricultural Stabilization and Conservation Service

NINETY PERCENT OF EARLY AMERICANS WERE FARMERS

by

Wayne D. Rasmussen *
Agriculture Historian, USDA
Washington, D.C.

Today's American farmer little resembles his colonial ancestor of two centuries ago. He heads a commercial enterprise his forefathers couldn't have imagined. Yet the resources, institutions, and technology that make American agriculture the world's most productive trace directly back to our early beginnings.

Nature richly endowed American agriculture. A wide range of productive land and climate permit production of virtually every agricultural commodity except some tropical fruit and vegetables, fibers, and spices.

Equally important, Americans have always been receptive to technological innovations that increase production and reduce physical labor. The farmer is no exception.

The rate at which innovations have been introduced has vastly increased in the last three decades. In contrast to earlier times when inventions or improved practices tended to be adopted one-at-a-time, today's farmer is using a "systems" approach to increase agricultural productivity.

Potpourri of progress. The package of improved practices on typical modern farms includes tractors and other machines; improved and hybrid seeds and livestock; fertilizer; productive use of water through irrigation and drainage; the application of chemicals to control weeds, fungi, and insects; the widespread use of conservation practices; and the balanced feeding of livestock.

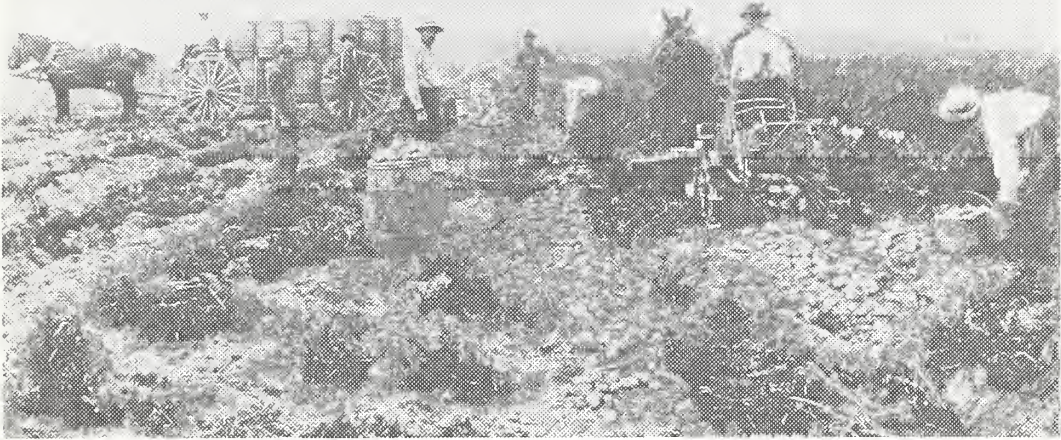
Agriculture sometimes reaches into other fields for advanced technology to solve a problem. A recent example is the conquest of the screwfly, a cattle pest, by using irradiation to sterilize the male insects.

One result of the technological changes in agriculture was a dramatic drop in the proportion of the Nation's work force needed to produce food and fiber. In 1974, only four percent of the Nation's labor worked in farming compared with 20 percent in 1935. In 1776, it was 90 percent.

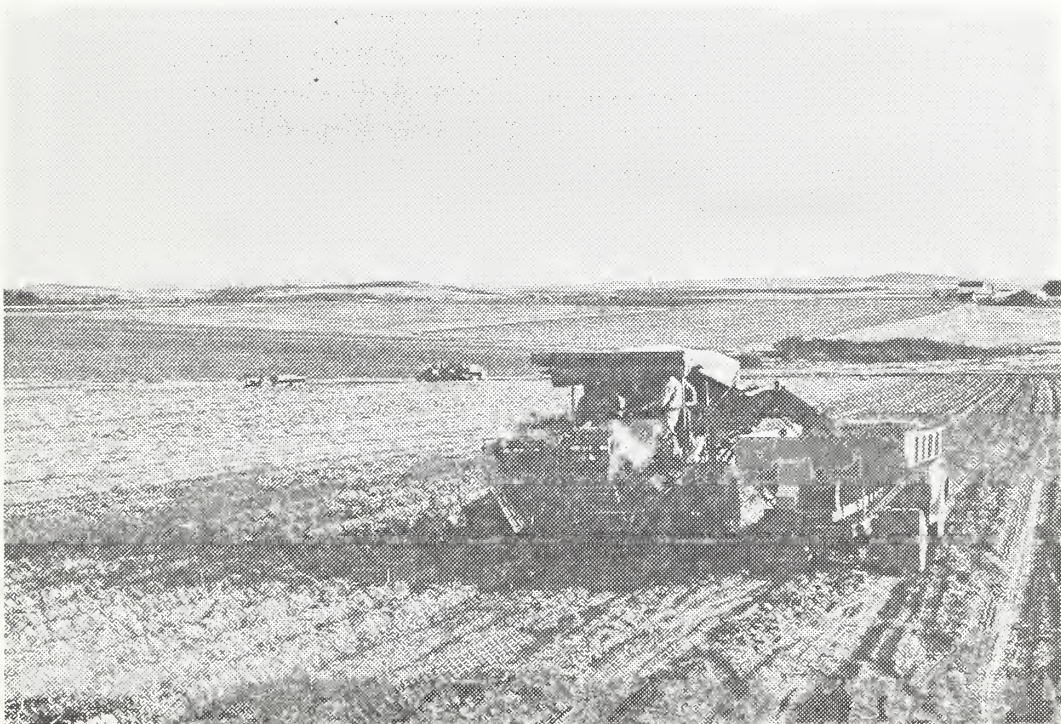
Another indication is that since 1935, the number of people living on farms has dropped from 32 million to a little over 9 million. Meanwhile, the number of farms has fallen from almost 7 million to less than 3 million.

Going commercial. Increased reliance on technology has meant that today's farmer must buy more of the things needed for production from industry or other farmers than his dad did. He also sells a much larger share of the output of his farm. Except for the subsistence farmer on one hand and the gentleman farmer on the other, he's a commercial operator, producing for the market.

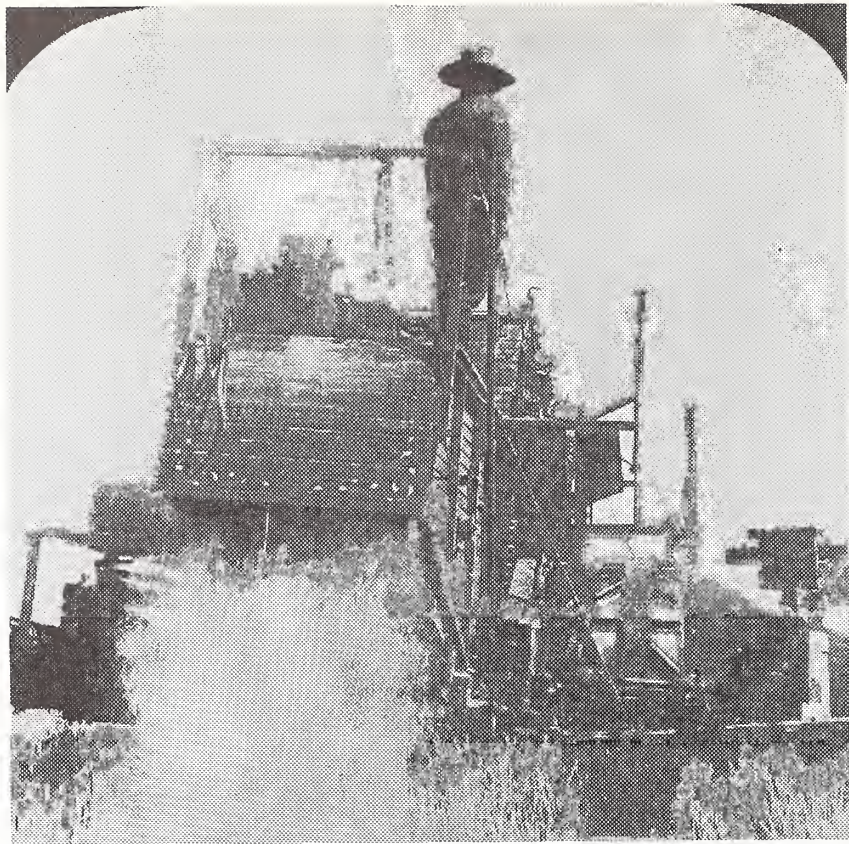
* Reprinted with author's permission.



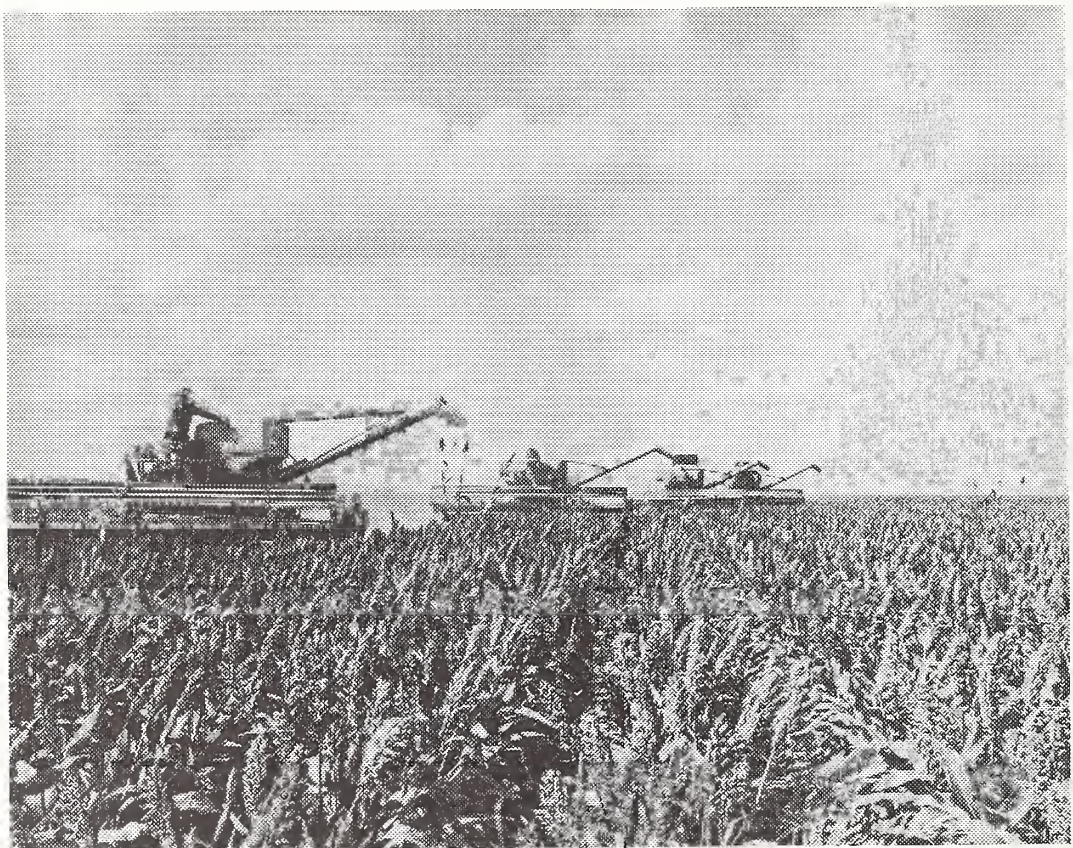
With only horse-drawn implements to aid, potato harvesting was back-breaking work at the turn of the century.



Now fully mechanized, potato harvesting requires hand labor only to sort out rocks and other debris.



Astride his turn-of-the-century thresher, a Washington wheat farmer watches as the machine separates grain from chaff.



Four combines cut a quick swath through a field of grain sorghum in this typical harvest scene on the Texas High Plains.

Furthermore, his market is no longer just down the road to the closest town. It's also national and international. Demands vary from year to year, and largely because of changes in foreign requirements. This broadening of the market has opened up opportunities for the farmer, but also exposed him to some problems.

Ideally, farmers together should produce the exact amount each year that would meet the market demands and, at the same time, yield fair returns for labor and investment. But variations in weather, combined with an unpredictable foreign demand and the fact that each farmer makes up his own mind about what he will plant, have brought problems of alternating surpluses and shortages.

Land Leadership. Thus the Federal government has helped the farmer adjust to the surplus v.s. shortage problems, beginning in 1929 with the Agricultural Adjustment Act and continuing with the Agricultural Adjustment Acts of 1933 and 1938.

The shortages of World War I were not severe and were handled by voluntary programs. Those of World War II were handled by allocation and rationing. In both instances, farmers responded with increased production, but then suffered for it when foreign demand slackened and prices dropped sharply.

Then during the 1950's and 1960's programs were developed to aid foreign nations and our own disadvantaged people by sending them our food surpluses.

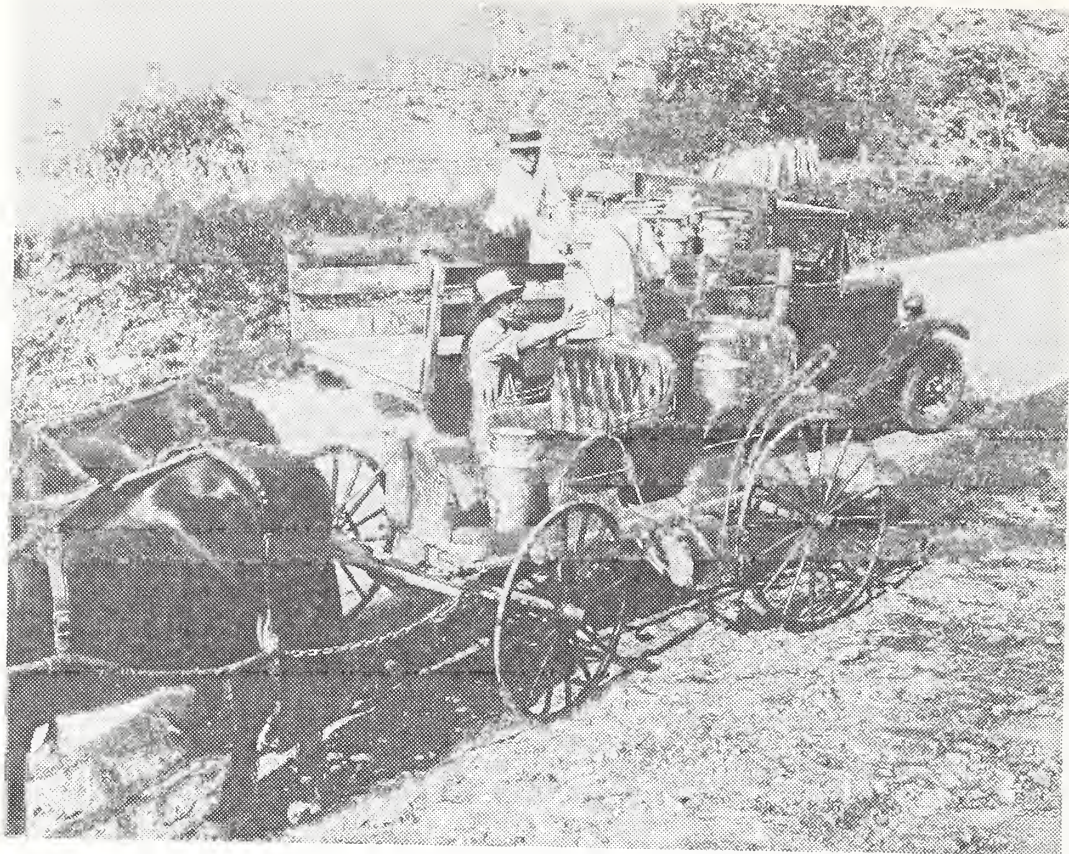
In 1972-73, however, the surpluses disappeared on the heels of world-wide weather disasters and increased foreign commercial demand for American products. By 1974, when famine again hit several nations in Asia and Africa, the U.S. faced demands it could not meet, driving food prices higher in the grocery stores. Government controls on production were removed in 1973 and 1974 but bad weather in 1974 drove crop production down. Given halfway decent growing weather, however, there is every reason to believe that the shortages will be only temporary.

Sustained Growth. Such belief, and optimism over agriculture's ability to produce, is grounded in historical fact. U.S. farm output has increased by a fourth since 1960, by a half since 1950. And it's doubled since the 1930's, and nearly tripled since the start of the 20th century.

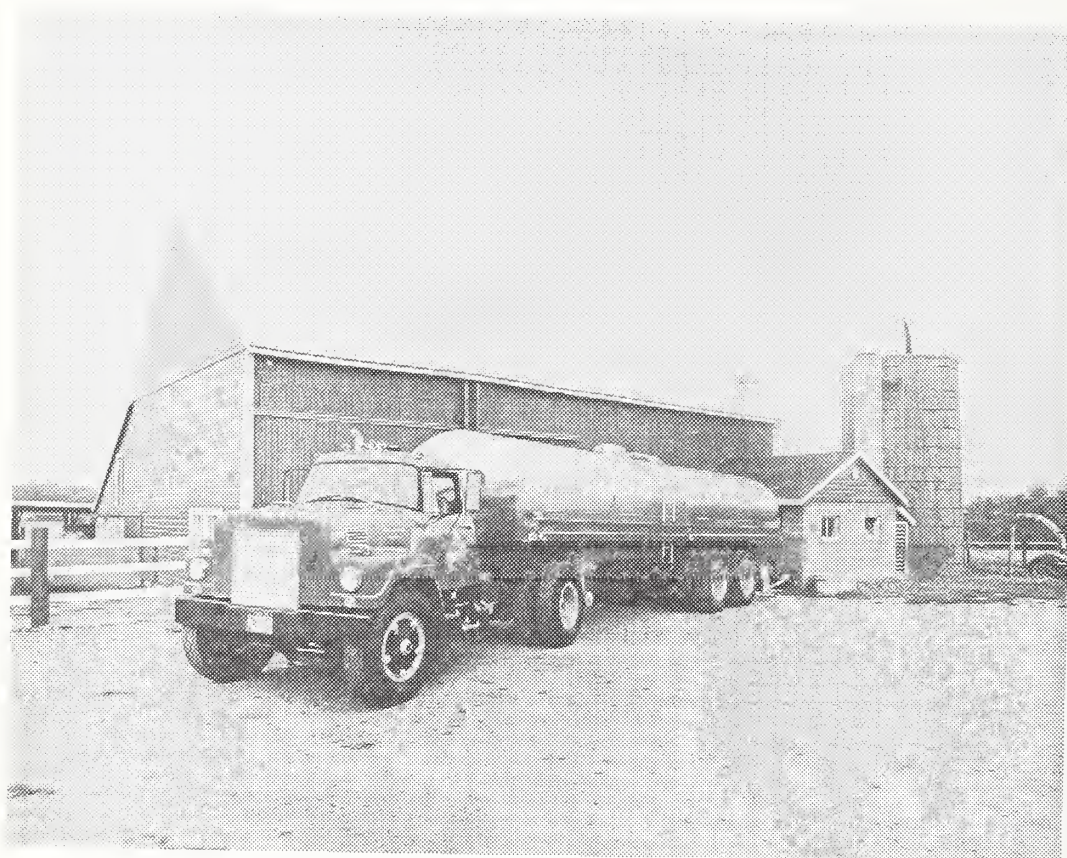
The roots of this almost constantly increasing production go back to the American Revolution. Among the causes of the Revolution were British controls over trade in colonial farm products and restrictions on expansion to new farmlands in the West.

The land question was tackled by the new Nation soon after it won its independence and before it adopted the Constitution. The Ordinance of 1785 provided for surveying the West into townships, each containing 36 sections of one square mile, and then offering them at auction. One section in each township was reserved for public schools.

The Ordinance of 1787, one of the most important laws ever passed in the U.S., provided for dividing the old Northwest into territories that



Metal milk cans, time-honored symbol of the American dairy, are lifted onto a local delivery truck to be hauled away for processing.



Bulk trucks, which pump milk directly from a dairy's refrigerated storage tank, form the modern link between producer and processor.



A grocery store in the 1880's offered only staples and basic household items, but lots of town gossip.



Though more impersonal than its forerunner, the modern supermarket offers shoppers streamlined service and 7,000 to 8,000 items.

would become States on equal terms with the original States when population reached a certain level. Settlers were protected by a bill of rights and slavery was prohibited. The genius of the ordinance lay in preventing what could have become a "colonial" problem by providing for the equality of new States.

Developments in Dixie. In the south, the settlers were, at first, frontiersmen, whose farms were patches of corn and beans and homes for a few hogs. In those early times, there seemed little likelihood that slavery might be coming to an end in the South. In fact, it appeared that slavery might be ending because of a decline in the demand for American tobacco.

However, in 1793, Eli Whitney, a young graduate of Yale University, invented a practical cotton gin, which separated the seeds from the lint of short-staple cotton quickly and at low cost. His invention made slavery profitable, encouraged planters to move west, and made cotton the preeminent agricultural export of the new Nation.

The northern frontier was characterized by small farmers who practiced a self-sufficient agriculture, though cattle raised in the Ohio River Valley were driven to eastern markets. Later, wheat became the main cash crop, encouraged by the opening of the Erie Canal in 1825.

A Time for Invention. The particular cultivation needs in the prairies led farmers and blacksmiths to invent new tools and machines. Two Illinois blacksmiths, John Lane and John Deere, separately used steel for the shares and moldboards of plows. These plows efficiently turned the sticky prairie soil, which had tended to cling to the conventional wooden or iron plows.

The critical point in raising wheat was the harvesting of the ripe grain before it was lost through rain, hail, or wind. For centuries, men and women had worked in the harvest with scythes and sickles, just as many farmers of the world still do. In 1831, Cyrus H. McCormick of Virginia built a workable, horse-drawn grain harvester. At about the same time, Obed Hussey of Cincinnati built a similar machine. Over the years, McCormick came to dominate the market, partly because he moved his factory to Chicago, the future grain marketing center, while Hussey began production in Baltimore.

Other important machines powered by horses were invented, including the grain drill, cultivator, mower, and threshing machine. These inventions marked the beginning of the first great "agricultural revolution" in the U.S.--the change from hand to horse-powered equipment accompanied by a transition from self-sufficient to commercial agriculture in the North.

The changes got under way slowly, though. Many farmers either lacked the capital or were unwilling to risk the little money they had to buy the new machines. Then the Civil War brought labor shortages, strong demand, and high prices for farm products. Adoption of the new technology caught on fast in the late 1860's and the early 1870's.

Key Legislation. The transition was encouraged by four major laws signed by President Abraham Lincoln. They were: the Homestead Act, granting 160 acres of land to western settlers; the Morrill Land Grant College



An early-day midwestern farmer resorts to hand combat to save his field from grasshoppers.



Aerial spraying, dusting, and fogging help today's farmer in the never-ending struggle against pests and disease.

Act, granting public land to each State for a college to teach agriculture and mechanical engineering; the act establishing USDA; and an act granting land to build a transcontinental railroad. The land grant colleges were later strengthened by the Hatch Experiment Station Act of 1887, providing for an agricultural experiment station in each State.

The first American agricultural revolution and the continued settlement of new land led to a marked increase in total production--doubling between 1870 and 1900.

Farm prices declined between 1870 and 1900 as surpluses developed, picked up between 1900 and World War I, increased sharply during the war, and then declined as sharply during the 1920's. The Nation continued to be a major exporter of agricultural products until after World War I. These sales provided a substantial part of the foreign exchange needed by our developing industry. Exports were low during the 1920's and 1930's but picked up during World War II and have been substantial ever since.

THE PUBLICATIONS EXCHANGE PROGRAM OF NAL

by

Judith Ho
Exchange Section , NAL

The National Agricultural Library has augmented its collection for many years through a wide-ranging publications exchange program. International exchange of publications was begun in 1866. The many valuable serial publications received by the Library in return for its own comprise the largest percentage (nearly 70%) of its collection. At present, the Library actively maintains exchange arrangements with some 17,000 organizations in 168 foreign countries. Similar arrangements are also maintained with the state departments of agriculture, and land grant colleges and universities in 50 states. In addition, many useful reports and papers are received by the Library as a result of the many cooperative research programs underway between the various other agencies of the Department and state organizations. Special programs have also recently been initiated in conjunction with other agencies of the U.S.D.A. to deal with the special problems involved in the exchange of information and publications with the U.S.S.R. and the People's Republic of China. Special permission and separate arrangements by the Library are necessary for participation in these latter two programs.

The Library works again in conjunction with all of the other agencies within U.S.D.A. in an effort to supply agricultural researchers and their organizations, both nationally and internationally, with any and all available U.S.D.A. publications. This is accomplished not only by sending them specific publications, but also by maintaining the current addresses of the various organizations on some 1,200 automated mailing lists representing the nearly 3,000 serial publications published by the U.S.D.A. each year. Exchange partners receive such publications as *Agricultural Research Magazine*, *Foreign Agriculture*, *World Agricultural Production and Trade*, *Plant Disease Reporter*, *Index Catalogue of Medical and Veterinary Zoology*, *Tree Planters Notes*, *Technical Bulletins*, and *Agricultural Economics Reports*.

The Library also participates in the PL 480 program which translates selected scientific articles from various foreign languages into English. These are also supplied to our exchange partners on request.

Further details regarding publications exchange with the National Agricultural Library may be obtained by contacting the following address:

*USDA National Agricultural Library
Exchange Desk
Beltsville, MD 20705*

NAL HAPPENINGS

The National Agricultural Library brought another ON-LINE retrieval system - the New York Times Information Bank - to USDA for a trial period of two months, May - June. The primary source of Information Bank material are the daily and Sunday editions of the *New York Times* dating back to 1969. The system also contains items from more than 60 other leading economic, political, and social science journals. The data base grows at a rate of 20,000 items monthly. Each item is indexed and abstracted by subject/information specialists. Because of the extensive and comprehensive abstracts stored in the computer, it offers a true information retrieval capability which is quite different from many computerized systems providing only numerical data or bibliographic citations.

While computerized information storage and retrieval systems in the field of science and technology have been in existence for more than a decade, the Information Bank is the first major system covering subjects such as management, economics, government, trade and marketing, national and international events, etc. It is a tremendous research tool for those who are responsible for management decisions, speech writing, Congressional liaison work, panel-discussions, and preparation of reports. By utilizing the Information Bank, the time consuming process of checking through individual indexes, reference files and clippings can be eliminated. Inquiries and responses are made in plain English so there is no computer language to learn.

During the trial period, a terminal was available in the Social Sciences Reading Room of the Library, South Building, USDA. New York Times personnel provided on-site demonstrations and training at no cost to the individual agency.

NAL ART SHOW

NAL held an Art Show for two weeks in May. The employees got together to show off their artistic talents. The painting category included works by Larry Calyn, Leila Moran, Shirley Gaventa, and Beverly Johnson. Two men with artistic eyes with cameras were Gabor Szent-Ivany and Dean Gamble. Kathleen O'Leary and Delores Holmes entered handmade bedspreads and afghans. Also in the handmade category were pillows made from washcloths by Joan Zubres and Melody Snare, plus bread dough flowers by Marie Boone. Ceramic entries were fashioned by Hilda Percosky. Besides her oil paintings, Shirley Gaventa displayed her hand painted china. Some of the unusual hobby collections in-

cluded Henry Gilbert's bricks, Tatiana Tontarski's Easter Eggs, Mary Jo Molineaux's well-displayed insect study, Sharon Crutchfield's turtles, and Nancy Lewis's stamps, which included first date of issue stamps.

VISITORS AT NAL

In May, Mrs. Earl Butz and other Department of Agriculture wives toured the Library.

Takao Shimamura, from the Computer Application Section, National Diet Library, Tokyo, Japan, made a three month study tour of library automation, which included a visit to NAL.

Students from the State University of New York at Buffalo, School of Information and Library Studies, toured NAL in April.

BOOK NEWS

World Food Production, Demand, and Trade. By Leroy L. Blakeslee, Earl O. Heady, and Charles F. Framingham. (Ames: The Iowa State University Press, 1973, 417 pp., \$12.95)

World Agriculture in Disarray. By D. Gale Johnson, Fontana World Economic Issues, no. 1 (London: Fontana/Collins in Association with the Trade Policy Research Center, 1973, 304 pp., paperback, \$4.95)

International Economic Peacekeeping in Phase II. By Harold B. Malmgren. Rev. ed. (New York: Quadrangle Books, 1973, 276 pp., paperback, \$3.95)

Food production and trade form common subject matter for each of these books which, in other respects, are rather dissimilar. Malmgren's thought-provoking presentation of guidelines for future U.S. international trade policy fits uncomfortably alongside the other two by virtue of its breadth of discussion, ranging from the monetary crisis of 1971 to the rationalization of agricultural trade, environmental management, and the future of trade with the developing countries. Denial of the traditional view that "agriculture is different" and thus merits special treatment with respect to trade and financial assistance is echoed in the two other books. Malmgren argues for reforms in the rules of international trading. Order in world economic relations needs to be restored and a higher degree of collective discipline introduced. Future international systems need to be sufficiently flexible to meet the requirements of individual economies but also allowed to adapt in relation to the evolution of the global economy.

Blakeslee, Heady, and Framingham adopt just such a worldwide view in their scholarly model building to examine projections for food production, demand, and trade during the remainder of the century. Interpretations of the relationship between population growth and the availability of food supplies have varied not only through time but also according to the political stance of commentators and the data at their disposal. The message of this information-packed study, with numerical tables by the score, is

one of guarded optimism. In the authors' words, "the potentials in supply expansion and in demand constraints are such that the world could obtain a favorable food production/demand balance in the next three decades". But while the potential solution may be there "it will not be obtained without vigorous population policies in the less developed countries...If, because the possibility seems to prevail, politicians and government administrators relax and do little or nothing to constrain births, the possibility will breed an even more intense problem in a few decades" (pp. vii-viii).

Suggestions for improving agricultural policies form one of the most striking features of Johnson's eminently readable examination of world agriculture and policies that cause it to be in disarray. Imbalance and waste are widespread. In some countries agriculture is a high-cost industry and is expanding. Elsewhere, low-cost farmers have difficulties in selling produce abroad and are required to cut production. Yet the consumer is often forced to pay high prices for his food. Perhaps the title of the book is something of a misnomer, since Johnson is selective in his treatment of world problems, drawing on his experience of North American and European issues but discussing other continents in more summary fashion. The recency of agricultural advance in many developed countries is highlighted with startling clarity as one reads "if you move back into history a little less than a century the agriculture of the now industrial countries was not all that different from the agriculture of the Indian subcontinent today" (p. 81). After disentangling the complexities of agricultural support systems in the European Economic Community and in other developed parts of the world, Johnson argues for fundamental changes in farm policies. Offloading of food to the developing countries should not be used as an excuse for industrial countries to continue operating inefficient and highly protected agricultural systems. More effective agricultural policy in the developed world requires four main changes. First, education facilities for rural youth should be raised to urban levels. Second, schemes should be introduced or extended to encourage off-farm mobility, migration to alternative employment opportunities, vocational retraining, and financial support during the training period. Third, a case is made for offering aid to members of low-income farm families who, through disability, lack of education, or for other fundamental reasons, cannot readily shift to alternative work. Finally, Johnson argues for a reduction of current high price supports and subsidies by the early 1980s so that an internationally agreed level of protection for agriculture may be achieved. Improved education, vocational guidance, and scaled-down price supports are seen as the key approaches to agricultural advance. Reallocation of assistance along these lines would raise living standards for those who remain in agriculture and for those who leave it.

* This review by Hugh Clout, Department of Geography, University College, London, from *Agricultural History*, Vol. XLIX, No. 2, April 1975, was reprinted with permission of the author.

OBERLY MEMORIAL AWARD

The Oberly Memorial Award Citation for the best bibliography submitted in the field of agriculture or the related sciences for 1973-1974 was awarded to Ann E. Kerker and Henry T. Murphy for their book, *Comparative and Veterinary Medicine: a Guide to the Resource Literature*. The book was published by the University of Wisconsin Press, 1973.

CALENDAR FOR PHASING ADMINISTRATION OF

THE

ASSOCIATES NAL, INC.

JULY 1, 1974 - SEPTEMBER 30, 1975

July 1974	Publish No. 10 of "Today" Newsletter	Completed
August 1974	Complete draft of monograph on "The National Agricultural Library: A Chronology"	Completed
September 1974	Advertise memberships in agricultural journals	Completed
October 1974	Publish No. 11 of "Today" Newsletter	Completed
	Draft copy of membership brochure	Completed
	Draft copy of announcement and program on Agricultural Literature Symposium	Completed
	Publish monograph on "The National Agricultural Library: A Chronology"	Completed
November 1974	Print and distribute membership brochure	Completed
	Print and distribute Symposium Announcement	Completed
	Board of Directors' Meeting	Completed
January 1975	Publish No. 12 of "Today" Newsletter	Completed
April 1975	Publish No. 13 of "Today" Newsletter	Completed
May 1975	Publicity on 3rd Annual Awards	Completed
	Nominating Committee to select candidates for new officers	Completed
	Board of Directors' Meeting	Completed
	Publish No. 14 of "Today" Newsletter	Completed
	Slate of new Officers	Completed
September 1975	Symposium on Agricultural Literature September 24-26, 1975	
	Annual Meeting, Thursday, September 25, 1975	
	Awards Luncheon	
	Brief Business Meeting	

The Associates of the
National Agricultural Library, Inc.
10301 Baltimore Blvd.
Beltsville, MD 20705

THIRD CLASS MAIL

PRINTED MATTER